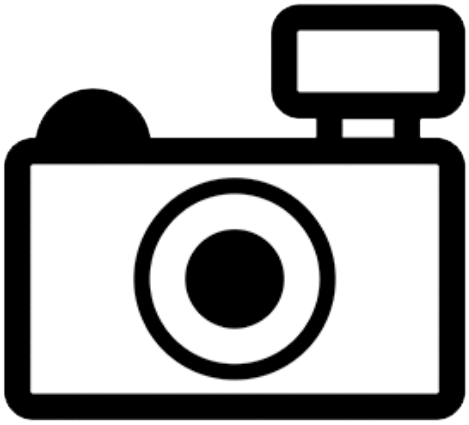
Hypostomus johnii (a catfish, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, January 2013
Revised, August 2018
Web Version, 9/11/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

"South America: Parnaíba and São Francisco River basins [Brazil]."

From Ramos et al (2017):

"Specimens of *Hypostomus johnii* were recently collected in the upper, medium and lower rio Parnaíba basin, states of Ceará, Piauí and Maranhão, Brazil […], occurring mainly in tributaries of the Gurgueia, Poti, Canindé-Piauí and Longá rivers in the state of Piauí."

Status in the United States

No records of *Hypostomus johnii* in trade or in the wild in the United States were found.

Means of Introductions in the United States
No records of *Hypostomus johnii* in the wild in the United States were found.

Remarks
No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing
According to Eschmeyer et al. (2018), *Hypostomus johnii* (Steindachner 1877) is the current valid name of this species. *Hypostomus johnii* was originally described as *Plecostomus johnii* Steindachner 1877.

From ITIS (2018):

"Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Siluriformes
Family Loricariidae
Subfamily Hypostominae
Genus *Hypostomus*
Species *Hypostomus johnii* (Steindachner, 1877)"

Size, Weight, and Age Range
From Froese and Pauly (2018):

"Max length : 11.3 cm SL male/unsexed; [Weber 2003]"

Environment
From Froese and Pauly (2018):

"Freshwater; demersal."

Climate/Range
From Froese and Pauly (2018):

"Tropical"

Distribution Outside the United States
Native
From Froese and Pauly (2018):

"South America: Parnaíba and São Francisco River basins [Brazil]."

From Ramos et al (2017):

"Specimens of *Hypostomus johnii* were recently collected in the upper, medium and lower rio Parnaíba basin, states of Ceará, Piauí and Maranhão, Brazil […], occurring mainly in tributaries of the Gurgueia, Poti, Canindé-Piauí and Longá rivers in the state of Piauí."

Introduced
No records of introduction were found for *Hypostomus johnii*.

Means of Introduction Outside the United States
No records of introduction were found for *Hypostomus johnii*.

Short Description
From Ramos et al (2017):

"Largest specimen examined 157.2 mm SL. Body moderately long and somewhat depressed. Greatest body width at cleithrum, progressively tapering to end of caudal peduncle; dorsal profile at caudal peduncle slightly concave; ventral region almost straight. Dorsal profile of head from tip of snout to dorsal-fin insertion slightly convex; gently descending straightly from dorsal-fin insertion to caudal peduncle posterior region; ascending again to caudal fin. Head and snout broad and depressed; head covered by dermal bones with odontodes. Mesethmoid forming slight, rounded crest from snout tip to region between nostrils. Orbits laterodorsally positioned on head; orbital diameter 12.7-17.2% in HL. Predorsal region formed by three unpaired narrow predorsal plates, with slight keel. Unpaired, elevated nuchal plate in front of dorsal-fin insertion. Dorsal fin II,7; its origin just before vertical through pelvic-fin insertion; dorsal-fin distal border slightly convex. Adipose fin developed and inserted five to six plates after dorsalfin posterior insertion. Pectoral fin I,6; pectoral-fin spine elongate, slightly curved, reaching midlength of pelvic fin and covered by numerous large odontodes. Pelvic fin i,5; unbranched ray slightly curved; reaching anal-fin insertion. Anal fin, i,4; distal border slightly concave. Caudal fin i,14,i, slightly notched; dorsal unbranched ray longer than unbranched ventral ray."

"Body covered by five lateral series of plates. Dorsal series with keel from its origin to adipose-fin origin. Middorsal series without keel or with an inconspicuous keel. Median series bearing

complete lateral line and lacking keel. Lateral line with 25 to 26 plates. Mid-ventral series strongly bent to fourth or fifth plates. Ventral series slightly bent to form flat ventral surface of peduncle region. Tip of snout almost totally covered by platelets. Ventral region of head covered with platelets except beneath lower lip. Scapular bridge covered with platelets except small areas posterior to branchial opening and around pectoral-fin insertion. Abdomen mostly plated in larger specimens, usually irregular distribution of platelets; larger ones next to laterals of abdomen, between pectoral and pelvicfin origins. Naked areas usually caudally to pelvic-fin insertion, and around anus to anal-fin insertion. Oral disk transversely ovate with numerous small papillae; papillae larger proximally to mouth. No hypertrophied medial buccal papilla. Maxillary barbel slightly smaller than orbital diameter. Dentaries long, forming an angle of approximately 140° to 150° to each other. Premaxilla with 65-110 and dentary with 65-115 villiform, bicuspid teeth. Teeth slender, with lanceolate main cusp larger than pointed lateral cusp. Teeth crown bent ventrally."

"Color of dorsal and lateral body surfaces and fins light brown; head with very closely spaced small, dark spots; trunk with spots slightly larger than on head and forming somewhat longitudinal rows. Interradial membranes of fins, except anal fin, with dark brown spots similar to those of the trunk forming five to eight diagonal lines (from base to distal margin). Anal fin light brown, spots, when present, faint and in low number. Abdominal region light brown; most individuals without spots on abdomen, some with dark brown spots irregularly scattered on entire abdomen; spots absent on ventral surface of caudal peduncle."

Biology

From Ramos et al. (2017):

"In the rio Parnaíba basin, the species usually occurs in areas of moderate current with rocky bottoms and gravel substrates."

Human Uses

No information on human uses of *Hypostomus johnii* was found.

Diseases

No records of diseases were found for *Hypostomus johnii.*

Threat to Humans

From Froese and Pauly (2018):

"Harmless"

3 Impacts of Introductions

No records of introduction were found for *Hypostomus johnii;* therefore, there is no information on impacts of introductions.

4 Global Distribution

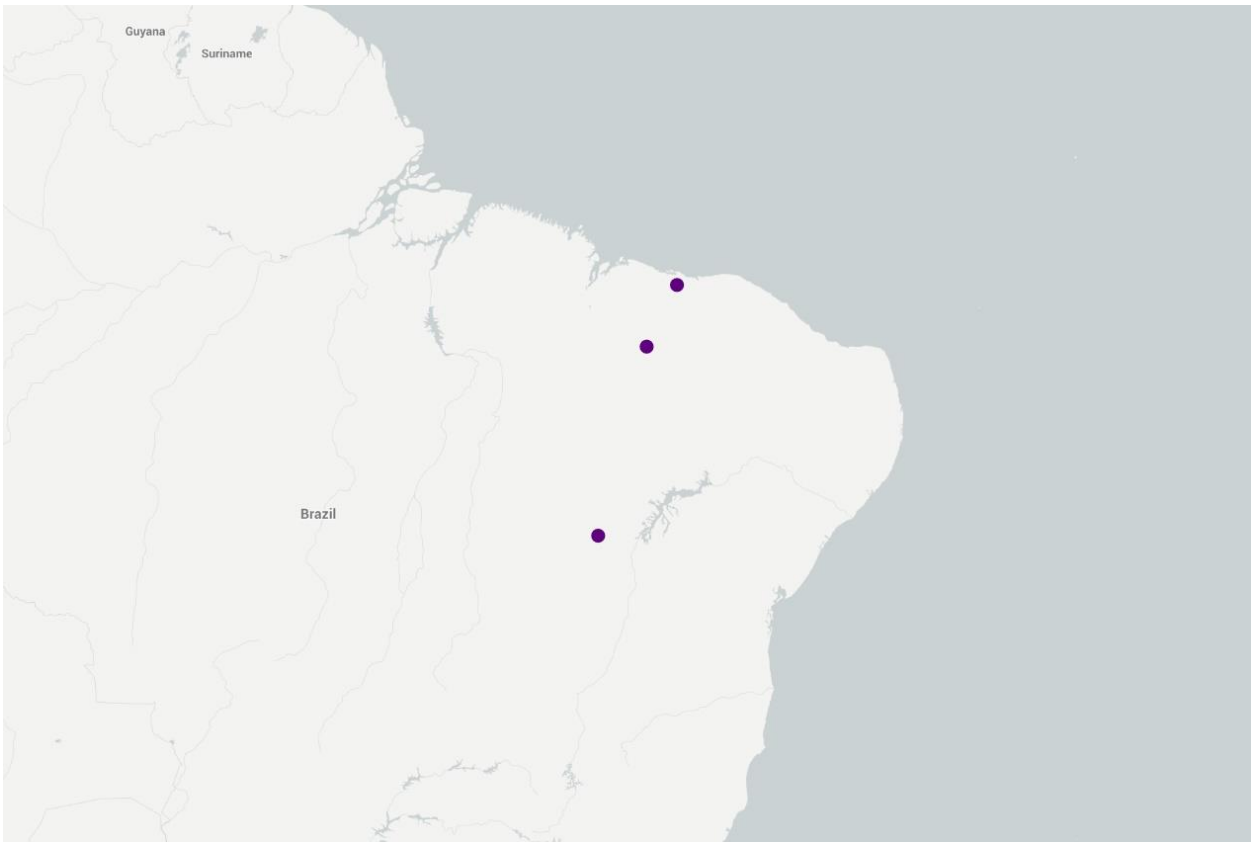


Figure 1. Known global distribution of *Hypostomus johnii*. Locations are in Brazil. Map from GBIF Secretariat (2018).

5 Distribution Within the United States

No records of *Hypostomus johnii* in the wild in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Hypostomus johnii* was low for the majority of the contiguous United States with a small area of medium match in southern Texas. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low. All States had high individual climate scores.

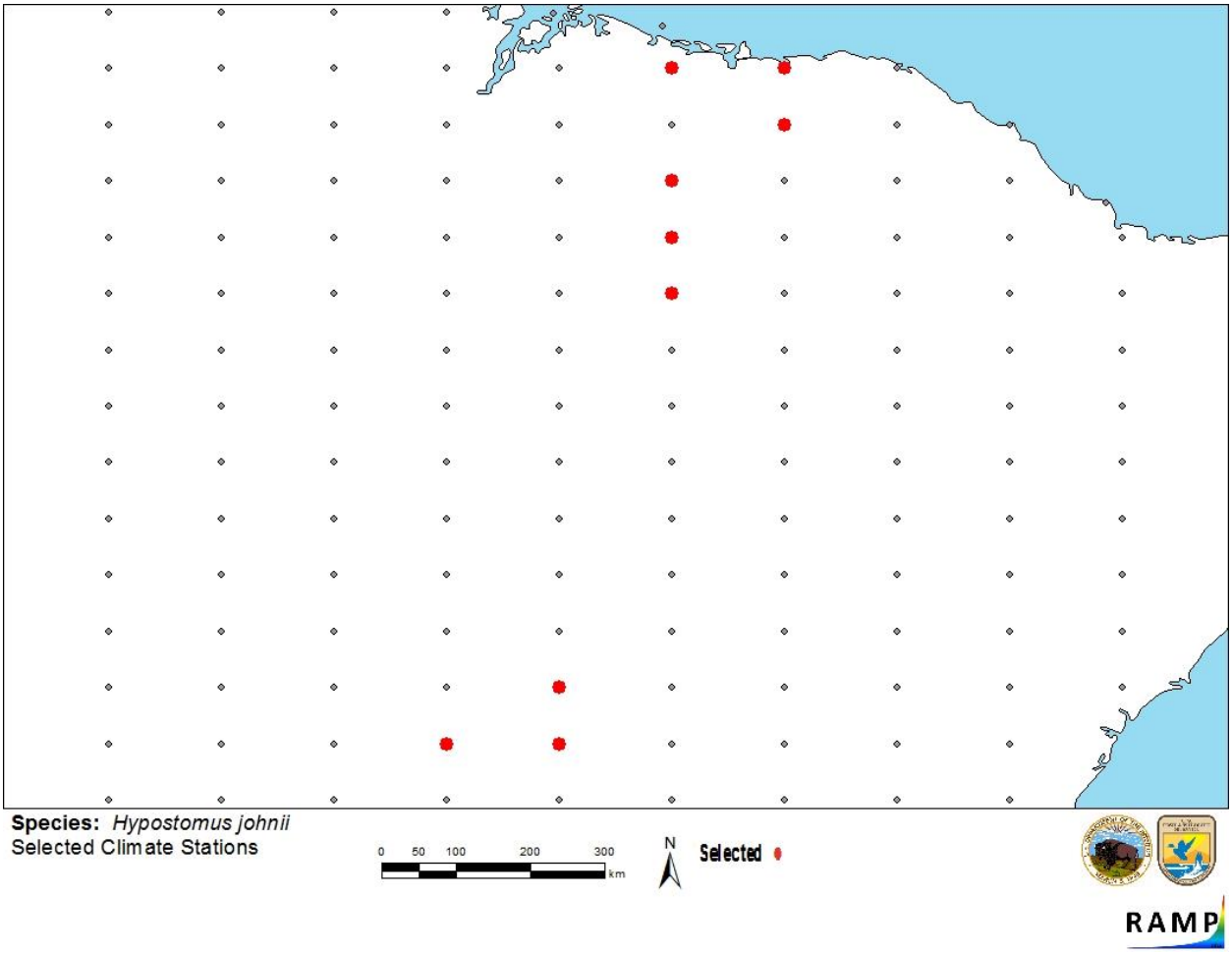


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in Brazil selected as source locations (red) and non-source locations (gray) for *Hypostomus johnii* climate matching. Source locations from GBIF Secretariat (2018).

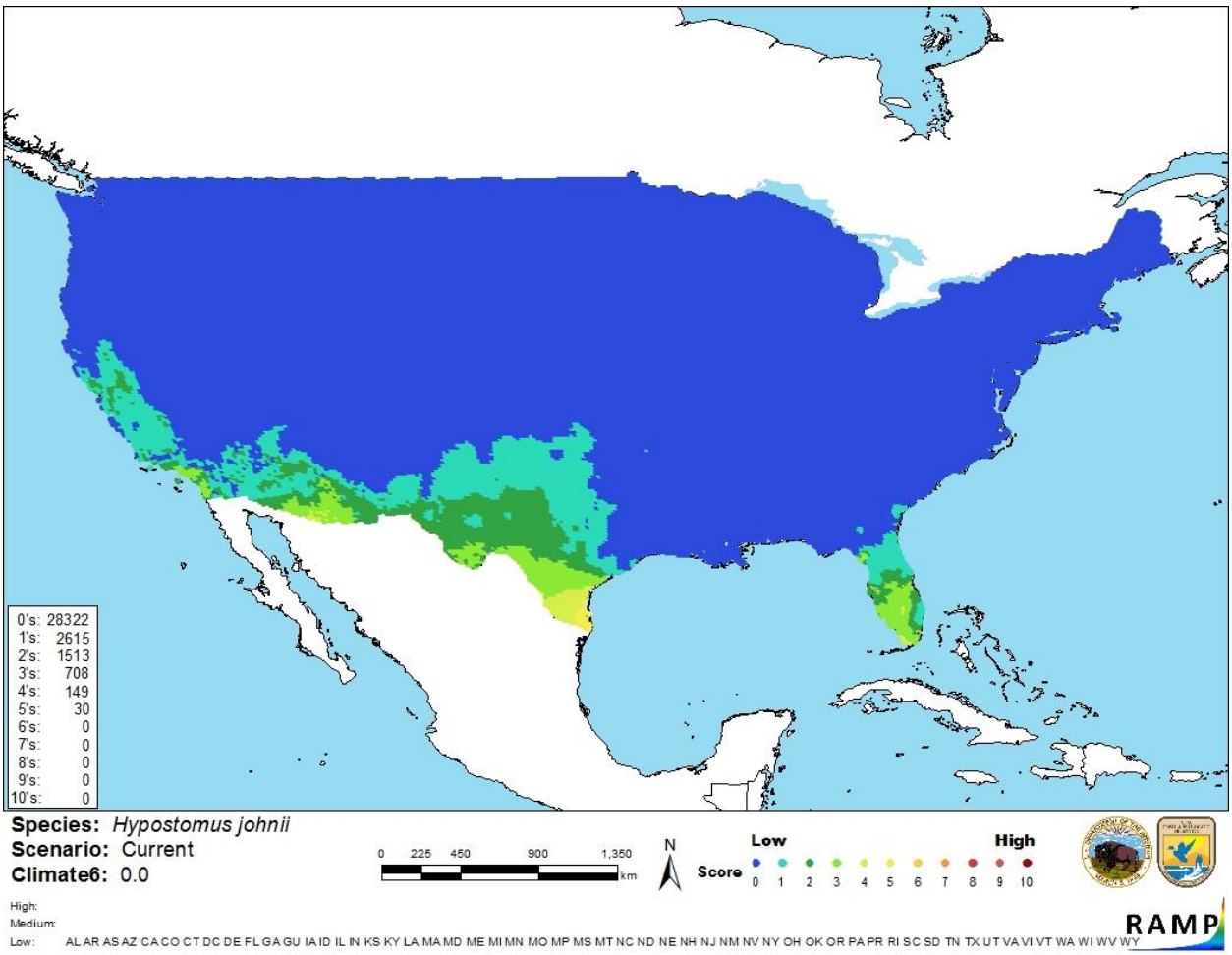


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Hypostomus johnii* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). 0 = Lowest match, 10 = Highest match.

The High, Medium, and Low Climate match Categories are based on the following table:

Climate 6: Proportion of (Sum of Climate Scores 6-10) / (Sum of total Climate Scores)	Climate Match Category
0.000≤X≤0.005	Low
0.005<X<0.103	Medium
≥0.103	High

7 Certainty of Assessment

The certainty of assessment is low. There was minimal biological information available for this species. There were no records of introductions found.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Hypostomus johnii is a member of the suckermouth armored catfish family (*Loricariidae*), native to South America. The history of invasiveness is uncertain. No records of introductions were found. The climate match was low for the contiguous United States. The certainty of assessment is low; the overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information:** No additional information.
- **Overall Risk Assessment Category: Uncertain**

9 References

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.

Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2018. Catalog of fishes: genera, species, references. Available: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp. (August 2018).

Froese, R., and D. Pauly, editors. 2018. *Hypostomus johnii* (Steindachner, 1877). FishBase. Available: https://www.fishbase.de/summary/Hypostomus-johnii.html. (August 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Hypostomus johnii* (Steindachner, 1877). Global Biodiversity Information Facility, Copenhagen. Available: https://www.gbif.org/species/5202226. (August 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Hypostomus johnii* (Steindachner, 1877). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=680185#null. (August 2018).

Ramos, T. P. A., C. H. Zawadzki, R. T. da C. Ramos, and H. A. Britski. 2017. Redescription of *Hypostomus johnii*, a senior synonym of *Hypostomus eptingi* (Siluriformes: Loricariidae), Northeastern Brazil. Neotropical Ichthyology 15(2):1–10.

Sanders, S., C. Castiglione, and M. Hoff. 2018. Risk assessment mapping program: RAMP, version 3.1. U.S. Fish and Wildlife Service.

10 References Quoted But Not Accessed

Note: The following references are cited within quoted text within this ERSS, but were not accessed for its preparation. They are included here to provide the reader with more information.

Steindachner, F. 1877. Die Süsswasserfische des südöstlichen Brasilien (III). Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Classe 74(1):559–694.

Weber, C. 2003. Loricariidae - Hypostominae (armored catfishes). Pages 351–372 *in* R. E. Reis, S. O. Kullander, and C. J. Ferraris, Jr., editors. Checklist of the freshwater fishes of South and Central America. EDIPUCRS, Porto Alegre, Brazil.